

CLAIMS

We claim:

1. A nozzle for a spray dispenser, the nozzle being suitable to dispense an at least partially liquid material, the nozzle comprising:
 - 5 a nozzle body having an inlet suitable to be positioned in communication with at least one reservoir having liquid material to be dispensed, an outlet end, and at least one conduit there between;
the outlet end having two outlet pathways capable of being in communication with the inlet, each of said two outlet pathways extending along its own longitudinal axis and having its own outer end;
 - 10 the outer end of one of the outlet pathways being truncated at an angle that is non-perpendicular to the longitudinal axis of that outlet pathway adjacent that outer end, and the outer end of the other of the outlet pathways being truncated at an angle relative to its longitudinal axis adjacent its outer end which is different from the truncation angle for said first of said outlet pathways;
 - 15 wherein the longitudinal axis of a first of said two outlet pathways adjacent its outer end is essentially parallel to the longitudinal axis of the second of said two outlet pathways adjacent its outer end.
2. The nozzle of claim 1, wherein the outer end of the outlet pathway of a first of said outlet pathways is truncated at an angle that is non-perpendicular to the longitudinal axis of that outlet pathway adjacent that outer end, and the outer end of the other outlet pathway is also truncated at an angle that is non-perpendicular to the longitudinal axis of that other outlet pathway adjacent its outer end.
- 20 3. The nozzle of claim 2, wherein a first of said two outlet pathways is positioned vertically above a second of said two outlet pathways.
4. The nozzle of claim 3, wherein the second of said two outlet pathways is configured to be able to direct spray at least partially downwardly as it exits the nozzle, and the first of said two outlet pathways is configured so as to be able to direct spray at least partially upwardly as it exits the nozzle.
- 30 5. The nozzle of claim 1, wherein the spray dispenser is an aerosol spray dispenser.
6. The nozzle of claim 1, wherein the spray dispenser is a pump spray dispenser.

7. The nozzle of claim 1, wherein the nozzle body has its inlet end in communication with two of said conduits, one of said two conduits being linked to a first of said two outlet pathways and a second of said two conduits being linked to a second of said two outlet pathways.

8. The nozzle of claim 1, wherein the nozzle body is a molded single piece plastic structure.

9. The nozzle of claim 1, wherein the nozzle body is a portion of an actuator over cap for an aerosol spray dispenser, wherein the over cap has a skirt suitable for linkage to an aerosol can, and the nozzle body is suitable to project spray out a radial side wall of the skirt.

10. The nozzle of claim 1, wherein the liquid material comprises an active selected from the group consisting of insect control agents, fragrances, sanitizers, cleaners, waxes or other surface treatments, and/or deodorizers.

11. The nozzle of claim 1, wherein the nozzle body is suitable to receive a formulation to be dispensed from a single reservoir and then split the formulation into two spray streams that exit the nozzle as separate streams.

12. The nozzle of claim 1, wherein the nozzle body is suitable to receive a first formulation of liquid material from a first reservoir, receive a second formulation of liquid material different from the first from a second reservoir that is separate from the first reservoir, and then deliver the first formulation through the first outlet pathway and the second formulation through the second outlet pathway.

13. The nozzle of claim 1, wherein the first and second outlet pathways are tubular and each has perpendicular transverse cross sections through a flow path through the tubular pathway that do not decrease in size adjacent the outer end of the outlet pathway as liquid material approaches the outer end of the outlet pathway.

14. A method of delivering a sprayable liquid material to be dispensed from a container to an ambient environment, the method comprising the steps of:

(a) providing a container containing a sprayable material to be dispensed, the container having an exit;

5 (b) then causing the sprayable material to pass through the exit and into a nozzle body of claim 1; and

(c) then delivering two streams of liquid material out from said outlet pathways into the ambient environment.

15 15. The method of claim 14, wherein within one meter after the streams are emitted from the nozzle body they at least partially merge.

16. The method of claim 15, wherein the streams remain visually distinguishable for at least 5cm after the streams are emitted from the nozzle body, even if neighboring portions of the streams have begun to be in contact with each other within that distance.

15 17. The method of claim 16, wherein the streams remain visually distinguishable for at least 15cm after the streams are emitted from the nozzle body, even if neighboring portions of the streams have begun to be in contact with each other within that distance.

20 18. The method of claim 16, wherein the streams remain visually distinguishable for at least 25cm after the streams are emitted from the nozzle body, even if neighboring portions of the streams have begun to be in contact with each other within that distance.